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Business communications and other correspondence to be addressed to DR. RYAN, No. 7 Montreal Street.

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SALUTATORY.

SOME one has said, of making many books there is no end. The same might, with equal truth, be said of Medical Periodicals. There is already published such a number and variety of periodicals devoted to the healing art that it might well be supposed that the field is completely occupied, and that there is neither room nor necessity for another. The appearance of this the first number of "THE KINGSTON MEDICAL QUARTERLY" is evidence that those who have assumed the responsibility of fathering this latest competitor for the favour of the medical public are of a different opinion. Our knowledge of the various departments of Medical Science has been obtained by the labours and experience of those who from the earliest times and in all countries have devoted their lives to the cure and prevention of disease. Every contribution, even though it contain nothing new, may be of service by confirming or modifying opinions previously held. As different observers in different localities have varying opportunities of noting the effects of disease upon the human organism, and of testing the effects upon the course of disease of different modes of treatment, it follows that the greater the number of observers and the more widely those are scattered who record their observations, the greater the amount and variety of data there will be furnished upon which to found an opinion either upon the cause, the course or the treatment of each individual form of disease.

Of course many of those who have devoted themselves to the study of the human body and its diseases are more advantageously situated than the rest of their confreres, and so we find the medical practitioners in every country, naturally grouping themselves around one or more centres. These centres are the seats of Colleges and Hospitals, and from them are issued the periodicals which record the observa-

tions and opinions of the Profession of these natural districts. For some time it has been felt and the opinion has been freely expressed by many that there ought to be such a publication in Eastern Ontario. Agreeing with that opinion and being desirous of testing whether the Profession in this eastern portion of our Province are prepared to endorse and support by their contributions such a Periodical, we have undertaken its publication. Its columns will always be open for contributions from any regular practitioner. Notes on cases, original communications, opinions upon theories advanced by others, criticisms of the educational Institutions and of the Council, reports of Society meetings, and all matter usually considered to be of interest to the Medical public, will be cheerfully received and willingly published. Each contributor will receive credit for his contribution, and we will in no wise hold ourselves responsible for the opinions expressed except for such views as may be set forth in the editorial columns. To the Profession of Eastern Ontario we especially look for support. Upon them will mainly depend the continuance of this Journal. If we obtain their co-operation we will feel that there is a reason for our existence, and thus we will be encouraged and strive to make this publication a worthy exponent of the opinions and observations of our confreres.

From the other Medical Publications of the country we ask, and we feel sure we will obtain, a kindly reception. We would not appear as a rival but rather as a co-worker in the common cause—the study of the human organism in health and disease. If we are enabled even in a small degree to advance our knowledge in those directions or to improve the education and standing of the Profession, our existence will not have been in vain. We will endeavour to succeed, and will be equally pleased with the success of any of our sister publications. To them and to the Profession we now introduce ourselves, and from all we hope to receive the same kindly treatment which we will always extend to them.

The formal opening of the Forty-third Session of the Medical Department of Queen's University will take place on Friday, Oct. 9th next, in the Operating Amphitheatre of the General Hospital. Dr. W. T. Connell will give the Inaugural Address. Dr. Moore, President of the Canada Medical Association, will speak on Medical Education. Principal Grant, Dr. Garrett and others will also deliver short addresses.

THE COUNCIL AND THE MEDICAL CURRICULUM.

WHATEVER opinion may be held as to the wisdom of the Council requiring a Medical student to devote five years to professional studies, we are constrained to support it in its recent action regarding the Medical Course. A proposal was made to abolish the fifth year of study and also the Summer Session, and to substitute for the course now required four winter sessions of eight months each. Thus it was claimed a student would be required to attend classes just as many months as under existing regulations. The proposition was voted down by the Council, and it was decided to maintain the present requirements. In this respect, we say, the Council acted wisely. As yet no student has finished his course of five years. The Council saw fit to adopt the present curriculum. For the Council, then, to say, before its plan had been put to the test, "We will abandon the fifth year and adopt an eight months session," would have been to declare to the public that there was not much stability about the regulations of the Council. Such a reversion of policy under the circumstances would have compelled one to feel that the gentlemen who compose the Council were not competent to discharge the duties for which they have been elected or appointed. Under present circumstances, then, we feel that the Council acted wisely in refusing to make the change proposed.

It might, however, very well be asked, had the Council never adopted the five years course would it now be wise to lengthen the College Session to eight months? We think not. This is a young country. All are striving to advance themselves. Every walk in life is open to every citizen, be he rich or poor. So we find many young men who are in financially poor circumstances by their own exertion earning the money that is necessary to fit them for the various learned professions. This is perhaps especially true of the Medical profession. At present the winter session being only six months long, these young men are able to obtain employment during the summer vacation, and thus supplement their scanty funds earned before they began their college course. Make the session eight months long and these young men would be unable to obtain employment for the remaining four months of the year, and even if they did occasionally find a situation, the time would be so short that they would not possibly save much to devote to the expenses of the winter. Of course it may be urged

that a good man who has determined to obtain a college education will succeed in doing so no matter what may be the difficulties he has to overcome. This is no doubt true. But why increase the difficulties of a financial character. In the interests of a large percentage of those, then, who have entered upon a medical course, we feel that it would not be wise to increase the length of the session from six to eight months.

There is another consideration which induces us to believe that the Council acted wisely in this matter. We freely admit that in a matter which affects the educational status of the profession, the Council may or even ought to disregard public opinion. In such a case the Council ought to lead public opinion, and not be led by it. In the matter of lengthening the session but not increasing the time spent in actual professional studies, the Council was wise in going slowly. It is well known that there exists in the minds of a good many of our citizens, a feeling that the Medical Profession is now or is endeavouring to become a close corporation. This belief has found expression in the public press, and in the attempts made to so modify the Medical Act as to practically remove from the profession the power to regulate medical studies and the license to practise. Had the Council decided to adopt the eight months session and thus have made it more difficult for those in financially poor circumstances to pursue their studies and obtain the license, those who are already disaffected towards the Council and the profession generally, would at once have raised the old cry of the rich *versus* the poor. They would have said that such legislation was intended to keep out of the profession poor men and to preserve this field of labour for the rich. We are confident that the supporters of the proposed change in the duration of the College Session had no thought of making ours a rich man's profession ; but why run the risk of stirring up such a feeling, or why give even the semblance of the colour of truth to such a charge, unless there is to be gained some great advantage to the profession and the public by the proposed change ? The present course requires the student to spend thirty-two months at College during five years ; the proposed course would require him to be at College thirty-two months in four years. Which course will make the better practitioner ? It is for the advocates of the change to show that by their plan the student will be better prepared for his life's work than by the present arrangement. Till this is clearly demonstrated we will feel that the Council in this matter has acted wisely.

SOME DISEASES OF BONE.*

1. *Atrophy*—Eccentric and concentric with report of a case.
2. *Tuberculosis*—Diagnostic value of *X* Rays.
3. *Necrosis*—Successful use of decalcified bone chips.

ATROPHY.

IN bones affected with eccentric atrophy, the disease begins in the interior—the bone thins from within outwards. The medulla increases at the expense of the solid constituents and there is produced in it new connective tissue cells.

The walls of the alveoli are absorbed. The Haversian spaces enlarge but there is no softening of the compact tissue as in osteomalacia, for, what is left of the bone though thin and brittle still retains its solid consistence.

In concentric atrophy, on the other hand, the surface of the bone is attacked and the same process of medullization goes on, periosteal proliferation ceases, and the bone diminishes from without inwards.

Fatty osteoporosis in which there is an abundant proliferation of fat cells in the medulla and spaces may occur in bones after prolonged immobilization, but in atrophy there is a greater or less disappearance of fat cells from the medulla and their replacement by cells resembling those of fœtal marrow.

By some, the condition of atrophy has been attributed to a diminution of nerve influx—by others, to a lowering of the circulation. (Ashurst).

In the following case the fracture was across the nutrient canal of the ulna;

W. G., age 32, farmer, in Dec. of last year had his right arm injured in a threshing machine, suffering a compound comminuted fracture of radius and ulna. An attempt was made to save the arm by wiring the bones, and when he came under my care in June last, the ulna seemed firmly united, but there was considerable movement in the radius.

Exsection of a portion of the ulna to approximate the bones, and their fixation by Senn's bone ferrule was decided on. Thinking, however, information as to the exact condition present might be

*Read before Kingston Medical and Surgical Society, July 6th, 1896.

gained by the *X* rays, I asked Capt. Cochrane of the Royal Military College, an expert in Cathography, to use the tube. This is the Skiograph. Fig. 1.

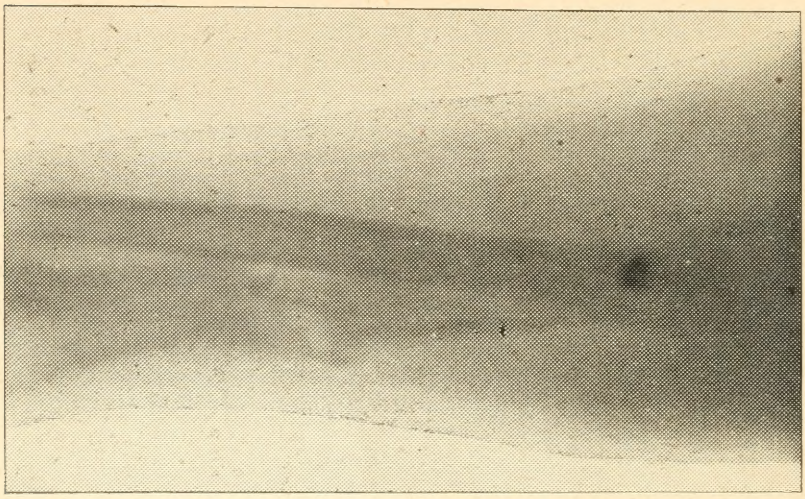

FIG. 1.

The radius is united, apparently by a narrow bridge of bone 1-16 inch in width, the wire is plainly pictured, and between the ends which are thickened, there is a large triangular space on the inner aspect. The skiograph showed that it would require a much larger ferrule than had been prepared. On June 6th I cut down on radius from behind, removed the wire, cleared the ends of the bone and fitted the ferrule, and then, on separating muscles over ulna, the periosteum which was of a darker color than usual seemed to simply lie on the bone without any attachment. On section the medullary cavity was enlarged and filled with a brown soft substance not in the least resembling normal medullary tissue, and the bone was exceedingly thin. As no union would occur under the circumstances the limb was amputated.

The report of Dr. W. T. Connell, Pathologist, to whom the bone was submitted for examination is as follows :—

MICROSCOPIC EXAM. W. G. BONES OF FOREARM.

Ulna—Tranverse section junction middle and lower thirds.

Medullary Canal—Greatly enlarged at expense of bone, consists almost entirely of fat cells but shows a few marrow cells and giant cells.

Bone—Markedly cancellous extending from within out. Haver-

sian systems much enlayed and filled with small round connective tissue cells, like young (red) marrow cells. Those spaces nearer the medullary canal show at times numerous fat globules. About many of the enlarged Haversian systems the bone salts have evidently been removed leaving a layer of decalcified fibres. A number of the enlarged spaces show a distinct layer of round cells laid down around the margin of the space, resemble osteo-blasts. No osteo-clasts seen. Enlarged cancellous spaces extend right through to periosteal bone surface.

Periosteum.—Peels off readily. Outer layer fibrous as usual. Inner layers somewhat thickened showing fibrous tissue and fatty globules.

Osteogenetic layers not well marked, no osteo-blasts, but numerous fat globules seen. No osteo-clasts.

Radius—Shows only slight atrophic changes. Cancellous spaces slightly enlarged and filled usually by numerous fat cells.

Remarks—The indistinctness of the skiograph is marked as seen by comparison with one of normal bone—so much so, that another exposure was advised with even a worse result, the bones being still less clear. As seen in this case, an operator may, with the assistance of the *X* rays, appreciate the defect in the bone in ununited fracture, and, with the information thus gained be prepared with the means to remedy it, and thus save time during an operation.

TUBERCULOSIS.

With reference to this condition I desire to draw your attention to the involvement of the epiphyseal region in tuberculosis of the long bones, and the use of the *X* Rays in an examination of the diseased structures.

During the growing period of bones *i.e.* the first and second decades, the nutritive activity of the neighborhood of the epiphyseal line is marked, the newly formed tissue is very vascular, there being a greater determination of blood to this region on account of the physiological changes going on here.

During this period, too, twists, wrenches, etc., are common—many of them of so slight a nature as to be scarcely noticed by the patient. This traumatism causes an increase in the circulation of the epiphyseal region and probably a rupture of the newly found blood-vessels and delicate trabeculæ.

If in a patient, then, during the growing period of bone, some slight traumatism causes increased congestion of the articular end, and, if, bacilli, circulating in the blood accumulate in sufficient number in the blood-vessels of that part or escape into the tissues, then their peculiar action is manifested by the formation of tubercles, if the patient is predisposed to tubercular disease, *i.e.*, if the resistant powers of the system to the bacilli is lessened by heredity.

The tubercle having been formed, the leucocytes around it may

either conquer and thus check the condition, or, being themselves overcome, carry the bacilli into new districts and so spread the disease.

When tuberculosis affects bones, an absorption of trabeculae occurs, an enlargement of the spaces takes place and a rarefying osteitis results so that one of the early pathological conditions of tubercular disease of bone is rarefaction. As the rarefying process causes a lessening of the solid constituents, and, as the greater the proportion of calcareous matter, the more distinct the skiograph ; it naturally follows that a bone the subject of rarefying osteitis would show less clear under the tube.

In the consideration of eccentric atrophy, I drew attention to the indistinctness of the skiograph in the case referred to. This was explained afterwards by the absorption of the firm tissue of the bone, so, then, the X rays offer a means of diagnosis of tubercular disease of bone in the early or rarefying stage.

Here is a skiograph (Fig. 2) of a rarefying osteitis of the carpus;

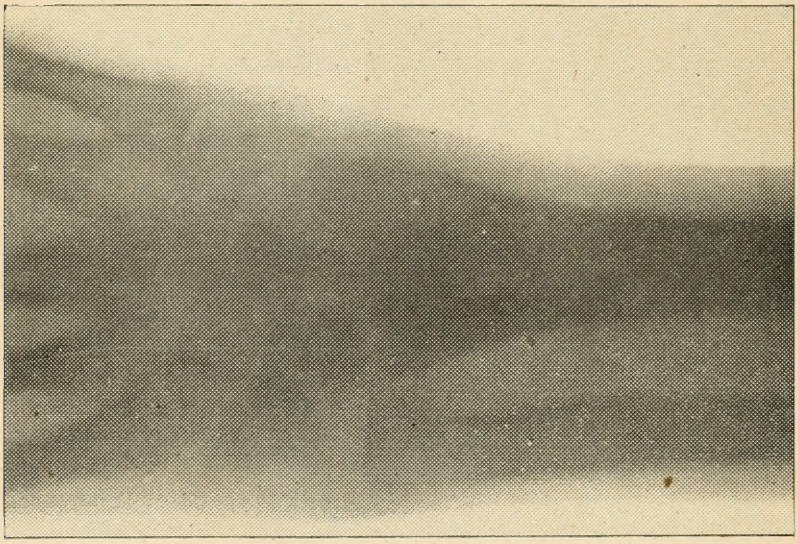

FIG. 2.

the individual bones are enlarged and in a condition of rarefaction. The patient's history and the external appearance of her wrist indicate tubercular disease, and that diagnosis is confirmed by the skiograph showing the condition present.

In cases where the system overcomes the tubercular process, as in

chronic abscess, by the surrounding leucocytes being converted into granulation tissue or still further into sclerosed bone, the skiograph in the former would show the location of the caseous process on account of the rarefaction, and in the latter, on account of the increase of calcareous deposit, would bring it out more distinctly than the rest of the bone.

Again in tubercular necrosis either from infarction or the rapidity of the process, the sequestrum being more rarefied than the surrounding bone could be accurately located. Thus the aid the use of the X rays offers in the diagnosis and treatment of tubercular disease of bone can be understood. In the early stage of the disease the exact site or sites for the introduction of antiseptics, such as iodoformized glycerine, etc., may be seen and the knowledge, in chronic abscess or tubercular necrosis, of their exact location facilitate operation.

The condition of both bones in tubercular osteo-arthritis may be appreciated, and where the caseous process has missed the joint and after perforating the periosteum opened on the exterior of the bone, the size of the cavity and its proximity to the joint estimated, as in a recent case in which the skiograph showed a large space in the lower end of the tibia, and yet the joint intact, after thoroughly scraping out the diseased tissue, I found a few lines only of healthy bone intervening between the cavity and joint.

NECROSIS.

I have no desire to enter into the pathology or symptoms of this condition, and merely wish to illustrate by a case, the beneficial effect of the use of aseptic decalcified bone chips as advised by Senn.

Edith F., age 12, came under my care in May last with a history of some disease of the humerus, lasting about five years. She had had four operations performed but it had never entirely healed. On examination I found the scar of an old incision on the upper and outer aspect of arm with a sinus surrounded by gelatinous granulations leading down to diseased bone, and so, on May 20th, an oblique incision was made parallel with, and through the posterior fibres of the deltoid. There was a large cloaca and the newly formed periosteal bone was about $\frac{3}{8}$ of an inch in thickness. After chiselling through this to enlarge the cloaca I removed a small sequestrum and thoroughly scraped out the granulation and surrounding tissue until healthy bone was reached. The cavity, having being dusted with iodoform, was packed with aseptic decalcified chips which had been dried in iodoform gauze after being removed from the alcohol in which they had been preserved. The periosteum which had previously been dis-

sected back from the surface chiselled, was approximated by catgut sutures, but on account of the cloaca there was a small space $\frac{3}{8}$ inch wide by one in length uncovered by periosteum over which the muscle was sutured.

After inserting a few strands of catgut under the last sutures of the periosteum to act as drainage the wound was closed, the arm put up in splints and in ten days union was complete. Her temperature throughout was never above 99. I have had no experience in packing the cavity in necrosis with coarse iodoform crystals and then suturing the periosteum over it, but the use of the bone chips is certainly a decided advance on the packing with gauze, as in this case four operations in which gauze was used had been performed and her arm was useless for five years, yet, in ten days with the use of the chips, union occurred. I saw the patient to-day; she uses her arm freely, her temperature is normal and the region of the operation feels firm and sound.

For success in this operation perfect asepsis is necessary, including the most thorough scraping of the diseased cavity.

D. E. Mundell.

FOREIGN BODY IN RIGHT BRONCHUS.

H. M., male, age 30, was admitted to the Surgical Ward of the Kingston General Hospital at 4 a.m., on the 19th July, 1893, complaining of pain in the chest with frequent spasmodic attacks of painful dyspnœa due to the presence of a portion of a silver coin which the patient stated he had drawn into his lungs two days before. He was admitted by the House Surgeon, and at 7 a.m. I was called to see him, and found a bright intelligent fellow with pale face and somewhat anxious expression. He was resting recumbent in bed complaining only of occasional slight cough and a dull pain to the *left* of the sternum about the second interspace, and in a low, husky tone of voice gave the following clear history :—

By occupation, a railroad man, but shipped for the trip as wheelman on a steamer, timber-laden, bound for Collin's Bay. The Captain's child playing with a mutilated silver coin lost it among the deck load of timber and requested the patient to look out for it when unloading the vessel. The accompanying cut gives a fair idea of the size and condition of the coin, an American quarter of a dollar which had been hammered out, and about one third of the circumference cut off leaving two sharp corners. While discharging the cargo the patient picked the coin up and proceeded to examine it. While doing so he received a peremptory command from the mate, "stop your fooling and pull on that rope". Wishing to retain the coin and having no pockets in the overalls he was wearing at the time, the patient quickly placed the coin between his teeth and made a sudden spring to obey orders. With the deep inspiration occasioned by the act he felt the coin slip through his larynx. "I was positive," said the patient, "that I had not *swallowed* it, but that it had gone into my windpipe." He experienced a terrible sense of suffocation, which was however but momentary, and then felt the coin descending his trachea "scratching all the way down" until it lodged in the left bronchus. He had occasional attacks of coughing and when stooping could feel the coin move. He ceased work and was driven to the city, where he saw a physician and was advised to go to the hospital. This was on Monday, 17th July. Instead of coming directly to the hospital he returned to Collin's Bay, wishing to return the horse as soon as possible, and spent the night on the vessel, having several attacks of dyspnœa with coughing during which he could distinctly feel the movements of the coin in his windpipe. On Tuesday his steamer came down to Garden Island, the patient with another sailor standing at the wheel. This exertion caused him great pain in his chest. He thought that the steamer would touch at Kingston, but failing to do so he was carried back to Collin's Bay. That night the convulsive attacks became so severe that he got a companion to drive him to the city, and, as reported, he reached the Hospital at four a.m. on Wednesday.

Careful auscultation failed to elicit any abnormal condition save a slight roughness or harshness of breathing over the left bronchus at

the site where the patient complained of pain. A few hours before he had a paroxysm of dyspnœa and felt the coin moving up and down in his windpipe, but relief came suddenly and since then he had been resting in comparative comfort.

However, the patient's description of the coin and his clear statements left no doubt as to the course to be pursued, so the necessary operation was explained to him and his ready consent obtained.

He was at once prepared for the operation of tracheotomy—the skin of neck and chest rendered aseptic and a $\frac{1}{4}$ gr. of morphia given hypodermically. The "low" operation was performed under chloroform anæsthesia, and it was found necessary to ligate and divide the thyroid isthmus in order to get free access to the trachea. When all hemorrhage had been controlled, the trachea was fixed by a sharp hook and opened to the extent of four rings. A long pair of curved forceps with alligator blades was then introduced and passed down into the left bronchus and the blades cautiously opened and closed. Although the patient was completely anæsthetized, each introduction of the forceps was attended by violent reflex movements and consequently the duration of each trial was very limited. After seven or eight unsuccessful attempts, I changed my position to the left side of patient, and passed the forceps to the full limit into the right bronchus. On opening and closing the blades it was felt that *something* had been caught, and careful slight lateral, and up and down movements told that the object held in the blades could be *moved*. This was guarantee for steady upward traction and to the great satisfaction of all concerned, the coin was in our possession. There is no doubt but that in the coughing fit of the early morning the coin had been dislodged from the left bronchus and had become fixed in the lumen of the right bronchus in such a way as to present only the slightest interference with the respiratory act. Considerable hemorrhage followed the extraction, and was not controlled for about 12 hours. Ergot was injected hypodermically and the tracheal opening guarded by hot antiseptic sponges. The patient's recovery was all that could be desired. In three days the tracheal wound was closed and in ten days he left the hospital, remaining in the city for about a week longer.

This case excited more than local interest, and a leading Toronto journal made the query: "Why did not the Kingston surgeon invert "the patient and cause the coin to roll out through the larynx, as in "the case of the celebrated Engineer Brunel some years ago?" Inversion was considered, but owing to the shape of the coin as des-

cribed, that method was considered too dangerous even to be attempted. If dislodged, the coin was sure to be arrested in the larynx and might prove fatal through suffocation. It may interest the readers of the journal to briefly recount the main facts in the Brunel case. Brunel, while amusing his grand-children by tossing a half sovereign into his mouth, felt it slide down through his larynx. Sir Benjamin Brodie was consulted. Inverting the patient was tried upon different occasions, and the small gold coin being perfectly round, readily rolled into the larynx, but invariably set up such irritation that the distinguished patient quickly resumed his normal position. Finally, after the coin had been in the bronchi for some weeks, tracheotomy was performed, but all attempts at forceps extraction proved futile. Then it was suggested to hold the tracheal wound widely open, and at the same time invert the patient, trusting that the coin would roll down and out. The coin did roll down the inverted trachea, but entirely ignored the artificial opening inasmuch as it passed between the vocal cords, struck the patient's teeth and rolled upon the floor.

W. G. Anglin.

OBSTETRICAL AND GYNÆCOLOGICAL NOTES.

FACE PRESENTATION.

THE text-books on obstetrics give a number of causes for the mal-presentation, among which may be enumerated a peculiar shape of the child's head or dolicho-cephalic head; disproportion between the head and pelvis, especially the elliptic pelvis; obliquity of uterus; accidental causes leading to a partial extension; and fœtal monstrosities, the chief of which being the anencephalic head.

Last winter in consultation, I had occasion to witness a cause for the presentation, which if not a new one is not mentioned at least in many of the text-books. The position was left mento-posterior, and as labour had well advanced before the attending physician was called, the forehead was tightly packed down into the pelvis towards the right foramen ovale. The waters were ruptured, and all attempts at pushing up the chin and bringing down the vertex were of no avail. For a similar reason bi-polar version could not be attempted, and it being

ascertained that the child was dead, craniotomy was resorted to. Notwithstanding the evacuation of the cranial contents, the chin could not be pushed up sufficiently high to release the forehead until a pair of small bladed forceps were passed over the vertex, the bones compressed and the head brought down.

On examining the child after delivery it was found that a spina-bifida occupied the lumbar region allowing a meningo-myelocele to form there, nearly the size of a small infant's head. This tumor lying between the wall of the uterus and the spinal column pushed the body to the opposite side ot the uterus, or in other words changed the direction of the spinal column and its relations to the anterior and posterior poles of the head, and thus the chin was allowed to come down at the time the head was entering the superior strait. The mechanism of its production seems to be similar to that produced by obliquity of the uterus.

Post Partem Hæmorrhage.—If asked to say what is my greatest dread in the practice of obstetrics I would say *Hæmorrhage*, whether it is accidental, unavoidable or post-mortem. Eclampsia is not so rapidly fatal that a consultation may not be arranged for and the responsibility divided no matter how distant the second practitioner may be. Not so with hæmorrhage; it comes on so quickly, often so unexpectedly and proves fatal so rapidly that there is scarcely time to call to your side counsel and assistance. The subject of post-partum hæmorrhage is one of immense importance, as it is relatively a common complication of parturition and there is no emergency in which so much depends upon the care and skill of the physician. I am inclined to think that while too much stress cannot be laid upon atony of the uterus as being the cause of this class of hæmorrhage, little if any stress is laid upon the fact that violent and even fatal hæmorrhage may take place with a well-contracted uterus, and consequently secure placental site.

A case related will probably illustrate my meaning better than any other way.

Mrs. S., aged 35, 3-para, had normal but rather rapid labors before. On reaching her side I found os dilated and the head ready to descend. A severe pain came on almost at once and, aided by her own efforts, which she had been keeping in subjection previously, the child was born. The placenta followed rapidly after and, although considerable blood came with it, it attracted no attention, as the uterus was firmly contracted and about the size of two fists. The woman was done up in the usual way, but in about half an hour her appear-

ance indicated that something was going wrong. The bandage was removed, but the uterus was well contracted as before. A finger was passed into the vagina, which was found to be enormously distended with clots. These were rapidly removed; the hæmorrhage, which continued, did not seem to come from the interior of the uterus. The bed was drawn towards the window, the patient put in Sim's position, a finger was made to take the place of a speculum, and the vagina explored with the aid of cotton pledgets. A large bleeding surface at the left side of os was found from which the blood seemed to pour. Happening to have a pair of large broad ligament pedicle forceps in my bag, I at once applied them, one blade in the cervix towards the front and the other blade outside the cervix and behind, thereby grasping the bleeding surface. All hæmorrhage at once ceased, and the forceps were removed after thirty-six hours. The patient was fearfully blanched, had all the alarming symptoms of fatal hæmorrhage, and I think would have died with a contracted uterus and a dry placental site had it not been for the use of the forceps. I have seen a number of such cases in various degrees, and what I wish to impress is that, where there is post-partum hæmorrhage the source of the bleeding is not always from the placental site or from atony of the uterus but from rupture of the circular artery or possibly the uterine, from an extensive lacerated cervix or from rupture of the muscular fibres of the lower segment of the uterus, and should be treated accordingly.

Puerperal Septicæmia.—The ease and comparative safety with which abdominal and vaginal hysterectomy is done in these days has led many operators to remove the uterus for many and diverse causes. Recent medical literature contains reports of cases of hysterectomy for puerperal septicæmia and we have now the bold statement made that after the second chill has occurred there is no longer doubt of the diagnosis, and hysterectomy must at once be performed to prevent the spread of the septicæmic or pyæmic process.

I am glad to see that such a statement has been challenged and the more conservative line of treatment warmly defended. Were septicæmia confined to those localities alone which possess men with the necessary facilities for the work all well and good, but unfortunately the disease is wide-spread, in the city and in the hamlet, the inheritance of the rich as well as the poor and is brought under the notice of the practitioner far removed from such surgical facilities as operation demands.

There seem to be two classes of cases, one which after careful and judicious treatment recover; another which, notwithstanding all kinds of treatment, die a few days after the initial chill. If the uterus is large and flabby, with evidence of retained placenta whether at full time or after an abortion it should be curetted, thoroughly irrigated and packed with iodoform gauze.

There is in the Doran building the notes of a case of septicæmia lasting over two months, in which the patient had a chill on the fourth day and continued every day for two weeks, the temperature two or two three times reaching 106 5 F. Under careful local and general treatment the symptoms gradually subsided, and at the end of two months the patient was dismissed perfectly well.

Another in private practice had severe chills on the third, fourth and fifth days. On the sixth day the uterus was twelve inches inches long measured by the sound and covered over in the interior with an ashen gray slough. The discharge was very offensive; the uterus was curetted, irrigated and packed with gauze, the irrigation and packing being repeated every day for a few days, and at the end of three weeks the symptoms had subsided. Her temperature on several occasions reached 106 F.

BASSINI'S OPERATION FOR THE RADICAL CURE OF HERINA IN THE FEMALE.

A young woman, aged eighteen, had been complaining of pain and weakness in the left inguinal region, for nearly two years, and when standing could feel a small lump just above the fold of the groin. After some persuasion an examination was permitted, and a small direct inguinal herina was plainly to be seen and felt. The condition appeared an excellent one for operation to which she submitted. An incision was made at a point two inches from the anterior superior spinous process and continued down to the spine of the pubes. The aponeurosis of the external oblique muscle was divided so was to fully expose the hernial opening. Buried silk-worm sutures were introduced with MacEwen's needle and the conjoined tendon stitched to the shelving part of Poupart's ligament. Silk-worm sutures were then passed through skin fascia and the aponeurosis of the external oblique, going wide of the cut margin in the last-named structure. Before these sutures were tied, the margins of the aponeurosis were brought carefully together by a continuous catgut suture.

R. W. Garrett.

PUERPERAL ECLAMPSIA.*

DURING my term of practice I have been brought in contact with this affection so frequently and the results in some cases were so peculiar and fatal that they naturally made a deep impression on my mind, and set me to deliberating more than usual on the causes and treatment of this peculiar malady. In the fall of 1890 I was called to see a young woman living in a boarding house in this city who was suffering from convulsions. Upon arriving at the house, I found her in a comatose condition, and the convulsions seemed almost incessant. She appeared to be about eight months advanced in pregnancy. There was very little œdema, the limbs being slightly swollen, but the skin had that pale pasty appearance usually observed in this affection. I could obtain little or no satisfaction from the people in the house, so I had her removed to the hospital at once. The late Dr. K. N. Fenwick was called in consultation and we decided upon immediate delivery. The cervix was dilated by digital manipulation, and after about two hours work delivery was secured. The child breathed only a few times, and about noon the next day the mother died. Though delivery occurred a few hours after the first convulsion it had but little effect on the patient's condition. The eclamptic seizures continued till death, though at rarer intervals.

Her room was searched after her death, when it was found she was an unmarried girl of respectable parents residing in a neighboring state. Her disgrace seemed to weigh heavily upon her, and from the time she was in the boarding house she remained in her room in a depressed and melancholy state.

In March, 1895, I was called in consultation to a neighboring village to see a woman suffering from all the symptoms of albuminuria. She was then only four months advanced in pregnancy. The urine was not scanty but heavily laden with albumin. She was the mother of a large family and had no difficulty with her previous labors. She had been very much depressed since she became pregnant, having already a large family, more in fact, in her opinion, than she could support and educate properly. The following plan of treatment was adopted, hot baths, diuretics, diaphoretics and purgatives, but with no beneficial effect. She refused to allow premature delivery, and death relieved her from further trouble in her seventh month. The eclamptic seizures did not come on till a very short time before her death, and were few in number.

*Read before the Kingston Medical and Surgical Society, Sept. 7, 1896.

The third case presented somewhat the same feature as the first. A young girl in this city went to visit her sister residing in a neighboring American town. She was seduced there and returned to this city for her confinement. She was in a state of deep melancholy from the outset, so much so that her mother informed me she had threatened on more than one occasion to take her own life. Towards morning a few weeks before she expected to be sick I was called to see her. Her limbs and body were considerably swollen, the pulse weak and respiration feeble, the urine was scanty and albuminous. She had up to this time no convulsions, but complained of of a queer uneasy feeling in her head and of being very weak. I at once gave a strong purgative, hot drinks, and morphia. About 9 a.m. I was called in again, and upon arriving I found she had had several convulsions and her appearance seemed much changed. I sent for assistance in order to bring on premature labor. There was no sign of commencing dilatation of the os, and but little headway could be made by digital manipulation. She was now completely comatose and the convulsions were almost incessant, face bloated and tongue swollen. She continued to sink rapidly and died before delivery could be secured. I have met with several other cases of albumin in the urine of pregnant women, but there were few or no eclamptic seizures; the attacks were mild in their nature, and the ordinary expectant treatment appeared to control the disease.

The statistics as to the frequency of this disease vary very widely. Even taking the smallest figures, the occurrence of this trouble is frequent enough to invite our serious consideration as to its causes and the line of treatment to be followed.

The reasons given for the appearance of eclampsia may be summarised from the various text books as follows :—

1. Pressure on the renal veins by the gravid uterus.
2. Pressure on the kidneys or ureters by the gravid uterus.
3. Increased work thrown upon the kidneys by their having to secrete the waste products from the foetus and enlarged uterus.
4. Increased arterial tension.
5. Reflex nervous influence.

To my mind the purely mechanical action of the gravid uterus plays a very unimportant part. In my second case recorded above, the albumin appeared in the urine before the fourth month, and in reviewing the literature I found many incidents related where the eclamptic seizures occurred between the fourth and seventh month. In the more recent papers written upon this malady the operation of

mechanical causes receives no more than a mere passing notice. But the question of renal overwork deserves greater consideration. There is no doubt but that a vast amount of new work is thrown upon these organs during the child-bearing period. That this is due alone to the kidneys having to excrete the waste products of the fœtus and the enlarged uterus is open to question. I do not think that this in itself would tax them beyond their endurance. Whatever part this cause may play, there are other important conditions operating. Constipation is a marked companion of pregnancy. The sedentary life many women lead while in this condition, retards also the natural action of the skin. Then too we must bear in mind that the respiratory function is considerably impeded during the later months of pregnancy, and the waste products of the blood carried off by this channel are diminished. Given then that these three great channels for the elimination of waste are acting in an imperfect manner, it is very easy to understand that the kidneys are asked to do more than they are able to accomplish, and quite naturally give away under the strain of overwork. But here again we are met by the fact that many women who have suffered from chronic kidney lesions pass through their child-bearing without any indication of eclamptic seizures. It may be that their condition is guarded more closely from a knowledge of this fact, or it may be as some writers suggest, that the system becomes tolerant of the poison.

Increased arterial tension and reflex nervous influence as causes receive little attention at the hands of later writers. I am inclined to think these conditions are the effect and not the cause, the *post hoc*, not the *propter hoc*.

Dr. Massin of Berlin who has given a large amount of study to this condition and who has contributed largely to its literature concludes that eclampsia is the result of a disturbed liver function, conditioning incomplete oxidation, and an increase of ptomaines in the system. He also holds that no amount of poison in the system will produce the seizures unless the mental equilibrinm be disturbed.

Dr. Polak, of Albany, is of the opinion that eclampsia is due to a toxæmia of the system, in which the entire excretory system plays a part.

Dr. Davis, of Philadelphia, makes out that eclampsia is the result of a complex irritant poison produced not only by failure of the excretory functions of the kidneys, but by failure of the excretion of the liver, skin, lungs and intestines.

Lusk considers that the majority of cases of eclampsia are due to

reflex spasm of the vessels of the brain, that the kidney affections were due to the same cause, and that the presence of excrementitious substances in the circulation adds to the gravity of the situation.

We must not lose sight of one important fact that the large majority of cases occur in primiparæ and that, too, at a time of life when the kidneys and every organ in the body have reached the acme of their functional activity, and should thus be more able and willing to respond to the increased amount of work they are charged to perform in the pregnant condition.

In the cases I have brought before your notice this evening, two of the patients were young, healthy females whose systems, other circumstances being equal, ought to respond readily to the natural consequences of their condition. There was added, however, the remorse of conscience inseparable from their unfortunate state. Both were constantly brooding over their disgrace, and looking forward not to the joyous time of delivery but welcoming any means—even self-destruction—that would part them from their unenviable surroundings. In the third case I found the same state of mind, from different causes, it is true, but operating in the same channel. I could not come to any other conclusion, therefore, but that mental influences in these cases at all events played an important factor in the causation of this disease.

And when we consider the high percentage of eclampsia occurring in primiparæ when the anxiety of the pregnant condition is greater and the event of delivery more dreaded, it is only natural to conclude that the disturbance of mental equilibrium occupies no small place in the causation of this dreaded malady.

In the treatment of this disease I find a wide diversity of opinion obtains. Many American writers are loud in their praise of veratrum viride. The European writers take no notice whatever of this drug.

Zweiful of Leipsic divides the treatment into the expectant and the aggressive plans as adopted by Duhrssen. The former aims at increasing the action of the kidney, skin and bowels. In the aggressive plan he recommends incision of the cervix and speedy delivery.

Tweedy of Dublin holds that chloroform, chloral and pilocarpine kill in the same way as eclampsia does; and I have no doubt but that he would include veratrum viride in the same list. He considers the induction of premature labor as a prophylactic absolutely unjustifiable and that the induction of labor adds to the danger in causing convulsions by reflex stimulation. Morphine hypodermatically is

his sheet anchor even after convulsions have set in, and until such time as the os is dilated, when he hastens delivery by the use of forceps.

To my mind there is no hard and fast rule to be followed. Every case should be judged on its merits, though the gravity of the situation is such as to tax the skill of the physician. We must have regard for the life of the child as well as the life of the mother, and to induce premature labor on the appearance of scanty and albuminous urine is a doctrine to which I could not subscribe. The true road possibly lies between the two extremes. Upon the appearance of albumin in the urine, the functions of the skin, kidneys and bowels, should be stimulated and as a last resort premature labor should be induced. I have had but one trial of veratrum viride (the second case related above), and I cannot say that it accomplished any great amount of good. Having regard for the mental influence, everything should be done to make the patient as cheerful as possible, and draw her mind from brooding over her condition. I trust the discussion that these few ideas will arouse here to-night will bring forth new light on this subject, and that each will contribute his experience as to the cause and treatment of this subtle and dangerous malady.

E. Ryan.

FOOD FOR INFANTS.

THERE are three ways in which infants may be fed:—1st, from the mother's breast, and this being the natural provision, if possible, should not be set aside for any other method; 2nd, the infant may be fed by a wet nurse, and in every case where a competent nurse is available, a supply of human milk should be thus provided; 3rd, there are many infants deprived of a mother's care for whom wet nurses cannot be secured, and these must be fed from a bottle. To direct the artificial feeding of an infant during the first eight months, is for any physician, a most difficult task. Experience has proved that the greatest success in hand-feeding is attained by providing a substitute as nearly as possible like the human milk, and the nearer our substitute can be made to approach it in composition, chemical and physical properties the better will it serve our purpose,

If we examine human milk, the type of all infant food, we will find that it contains in due proportion, all the elements necessary for the upbuilding and repair of the system, for the maintainance of body heat, of metabolism, of secretion and of excretion. We will also find that these elements all exist in a form ready for absorption and as-

similation by the immature digestive organs of an infant. The milk of the mare, the ass or the goat is closely allied to human milk in composition and properties, but for the sake of cheapness and convenience, cows' milk is generally used in this country, as the basis for infant food.

By chemical analysis cow's milk may be shown to contain the same ingredients as human milk, but in different proportions. On the average human milk has one-half of one per cent more fat or cream than cow's milk, and about two and a half per cent more lactose; it has however less mineral salts and only about one-half the quantity of proteids. With regard to the composition and properties of the various ingredients, it is found, that, there is no material difference in the fats of human and cows milk. The lactose in the two secretions is also chemically and physically identical. The proteids however are essentially different and require careful consideration. In both human and dairy milk the albumenoid portion consists chiefly of casein and lactalbumin, a few peptones being generally present, as the result of bacterial fermentation; the casein is an acid body, in milk it is combined with an alkali (usually potassium) to form a soluble caseinate. In the presence of a dilute acid, or in the gastric juice, the caseinate is decomposed and the casein precipitated—the lact albumin remains in solution in the whey. It is important to note:—1st, that from human milk the casein is precipitated as a light, flaky, soluble powder,—from cow's milk as a heavy, cheesy, insoluble mass; 2nd, if equal volumes be taken the precipitate or coagulum from human milk is only one-fifth as much as from cow's milk; bearing these facts in mind it will be easy to understand how infant digestion is so often overtaxed when using cow's milk. The mineral matter in cow's milk is greatly in excess and especially is this true of the lime salts, the ratio being 22 to 16 hence the addition of lime water, were it merely a question of alkalizing the milk, would be open to serious objection; we shall see later on that lime water has another and more important function.

The following tables exhibit the relative composition of cow's milk and of human milk and will aid us in determining the changes, which must be made in cow's milk, before it can be safely used as infant food.

	Cow's Milk.	Human Milk.
Fats	3.75	4 13
Lactose	4.40	7.00
Albumenoids	3.75	2.00
Mineral Salts	0.68	0.20
Reaction	Acid.	Alkaline.
Bacteria	Present.	Absent.

It is evident from the above that in order to render cow's milk suitable for infant food it will be necessary to increase the proportion of fats and lactose and to reduce the proteids and mineral salts; the tendency to coagulate in firm masses must be overcome; the acidity neutralized and the bacteria destroyed. When providing for the deficiency of fats and lactose it must be remembered that the proportion of these will be further decreased by the dilution of the milk. Cream may be added to supply the fats and sugar is commonly added to supplement the lactose, but when possible lactose itself should be used, as it contains some of the essential salts of milk and has less tendency to ferment. The casein and salts may be reduced to their proper ratio by diluting the milk. Water is the common diluent but it is by no means the best, attenuants such as barley or oat-meal water which contains starch-powder in finely divided form will dilute the milk and at the same time act mechanically to prevent the formation of curd-like masses in the stomach The starch powder getting, as it were, between the particles of casein during coagulation. The precipitation of casein in firm coagulated masses may also be prevented by the addition of an alkali. When lime-water is added to milk it neutralizes the acidity and it also forms with the casein a soluble calcium caseinate not decomposable by the acids in the stomach, and thus it prevents the separation and coagulation of the casein.

It is generally conceded that the milk of a healthy woman or of a healthy cow is free from bacteria when secreted, but dairy milk soon becomes infected. The germs of diphtheria, scarlet fever, typhoid fever, and cholera from the air, water or ground may find their way into the milk; other sources of infection are the hands of the milk-maid, unclean milk-pails, particles of excreta floating in the air or falling from the surface of the cow's body. The milk being a natural culture-medium these germs multiply and develop rapidly. The species commonly found in milk are: 1st, the B. acidi lactici which under proper conditions changes lactose into lactic acid by the addition of water thus $C_{12}\ H_{22}\ O_{11} + H_2O = 4\ (C_3\ H_6\ O_3)$ a primary and physiological fermentation; 2nd, the B. butyricus which induces a secondary pathological fermentation decomposing lactic acid into butyric and carbonic acids—thus $2\ (C_3\ H_6\ O_3) = C_4\ H_8\ O_2 + 2\ CO_2 + 2\ H_2O$, the reaction becomes alkaline, the casein is dissolved and broken down yielding as final products leucin, tyrosin—various ptomaines, gases, etc. This is evidently a putrefactive process, and is no doubt responsible for many gastro-intestinal diseases common among

children. 3rd, the B. coli communis is one of the most common forms—Prof. Connell, Pathologist of Queen's University, reports that in every one of the 18 samples of dairy school and city milk examined by him last winter, the B. coli was found, and in $\frac{3}{4}$ of the samples it overgrew and masked all other forms on the agar and gelatine culture plates. The chemical changes induced in milk by the B. coli communis are not yet fully understood, but it is generally believed that these germs play an important part in the digestive disorders and diarrhœas of children. The presence of oidium lactis, oidium albicans and other forms of fungi and cocci may be demonstrated if plate cultures be made from samples of ordinary dairy milk.

In case of diseased animals, the milk when drawn may contain pathogenic microbes, of such the most important are the bacillus of tuberculosis and the ordinary pyogenic cocci of suppurative diseases. With these facts before us regarding the bacterial impurity of milk it becomes an imperative duty to devise some means of destroying these germs. Until recently it was the common practice to sterilize all milk used as infant food, by heating it to the boiling point, and so far as destruction of the germs was concerned, no better method could have been adopted, but it soon became evident that infants fed on the sterilized milk were not nourished. Experiments were made which proved that when milk is heated to the boiling point its nutritive properties are seriously impaired; the fat collects in pellicles on the surface and cannot be absorbed, the lactose is changed and decomposed, the lactalbumin is coagulated, the casein rendered insoluble and difficult to digest, the starch ferment is precipitated and destroyed. When it was decided that the sterilization of milk by boiling had to be abandoned, enterprising dairy men proposed to furnish sterile milk in sealed bottles, assuming that milk was free from germs when drawn, the intention was to keep it free from infection by handling it under aseptic conditions, but they soon found that consumers would not pay for the skill, time, and apparatus required.

Recently the labours of Pasteur, Yersin and Hueppe have demonstrated that the exposure of milk for 15 minutes to a temperature of 75 C. will destroy the pathogenic microbes and leave the milk practically germ-free. These same men have further demonstrated that any temperature below 80 C. will not materially injure the nutritive properties of milk. This process of sterilization at a low temperature termed pasteurization, seems the most reasonable and practical solution of the problem.

Issac Wood.

TWO CASES OF INTRAOCULAR HÆMORRHAGE.

"BLOOD occurring in the vitreous always requires a long time for its complete resorption; and if much blood has been extravasated, opacities of the vitreous of considerable size always remain and cause great impairment of vision."

This statement taken from one of the best text-books of the day, namely: Fuch's "Diseases of the Eye" (p. 222), is of sufficient authority to warrant the publication of the following case, which forms a satisfactory exception to the usual result.

Master W. H., aet. 17, was struck in the eye with the end of a hockey stick, about 9 p.m., Jan. 30th, 1896. He noticed at once that he could see nothing with the eye. On examination at the Hospital half an hour afterwards, the eyelids were found uninjured; there was a small superficial abrasion on the surface of the cornea; the pupil was semi-dilated and responded but slightly to light. With the ophthalmoscope there was no red reflex, the vitreous evidently being suffused with blood. There was only perception of light. He was at once put to bed and cold compresses applied to the eye. A tabloid of Atropine, 1-200, was placed in the sac, and a solution of cocaine, gr. iv, to half an ounce of a 1 to 500 solution of Trikresol prescribed, to be used every two hours during the night for the superficial lesion. At midnight he vomited. During the rest of the night he was quiet and without pain. At nine the following morning the fundus was visible, the vitreous being transparent. The pupil was widely dilated and the corneal abrasion better, no chemosis nor oedema of the lids. The cold compresses were continued and the recumbent position maintained thro' the day. At 7 p.m. the same conditions of the ocular media were present. During the night he became restless and complained of dull pain in the eye and supraorbital region. At 9 a.m., Feb. 1st, it was found that a further hæmorrhage had taken place, and the anterior chamber was now completely filled with blood. The iris could not be seen at any point and there was no perception of light. Tension normal: no pain, only slight tenderness. Cold compresses continued and saline cathartic administered.

On the following day, Feb. 2nd, absorption had fairly commenced, the periphery of the iris being in view. Iodide of Potash was ordered, gra. iii. every four hours.

Feb. 4th. The iris was now clear to the margin of the dilated pupils; the light by oblique illumination was strongly felt. No red reflex from the margin of the pupil; no oedema and very slight ciliary tenderness.

Feb. 7th. The anterior chamber was completely clear, no remnant of the blood clot to be seen. With the ophthalmoscope a bright red reflex was had from the fundus.

Feb. 12th. Discharged from Hospital. Media all clear.

Feb. 15th. Examined at office. Media clear. Vision was $\frac{20}{40}$: of the uninjured eye, $\frac{20}{20}$.

A week later, vision was $\frac{20}{30}$; and it has remained at this to the present time. The pupil of the injured eye is now slightly larger than that of the other, and this with the difference in vision is all that is left of a very serious lesion.

The points of special interest in this case are, the rapid resorption of the first hæmorrhage into the vitreous; the secondary hæmorrhage twenty-four hours after the injury; the complete clearing up of the anterior chamber, and of the vitreous for the second time; and the absence of late complications, the final condition of the eye being practically normal.

The second case, which was under treatment at the same time, is reported for the sake of contrast.

W. S. L., aet. 41, hotel-keeper, came to my office on Feb. 13th, 1896, with the following history: On Feb. 9th, he was struck over the left eye with the edge of the base of a lantern which was swung with great force from above downwards. As he was drinking at the time no attention was paid to the eye, tho' he stated that he knew from the time he was struck that he could see nothing with that eye. On the morning of the 13th he found the vision of the right eye also blurred, and became alarmed. He consulted me that day. On examination of the left eye there was very little ciliary injection; the pupil was semi-dilated and responded feebly. With the ophthalmoscope no red reflex was obtained. With oblique illumination a dark mass of blood clot could be seen in the vitreous chamber. No perception of light. He was at once put under treatment. For the three days following he was difficult to manage, being threatened with delirium tremens. Vigorous means were employed to promote resorption for one month but without effect. A wet cup was applied to the temple twice, about two ounces of blood being drawn each time. Saline cathartics and alteratives were administered. Pilocarpine was used hypodermically. Hot boracic compresses were constantly applied for two weeks. At the end of the month there was no practical difference in the condition of the eye. To the extreme temporal side there was perception of light. With oblique illumination the mass of blood-clot in the vitreous was contracted as compared with its first appearance, but no red reflex appeared in any portion of the field. The eye is in the same condition at the present day.

Such is the more common course and termination of these cases. The excellent result in the first case is not to be explained merely by the youth of the patient, but by a power of repair, the ultimate elements of which it is impossible to determine.

THE VALUE OF FLUORESCEIN.

In the diagnosis of corneal abrasions and ulcers nothing can equal

the fluorescein dye. The solution should be made of fluorescein, gra. xv, Bicarbonate of soda, gra. x, to half an ounce of distilled water. This makes a reddish brown fluid which keeps indefinitely. One drop of this is placed on the conjunctiva and the latter may then be washed with water. The normal cornea is never colored, but if it is anywhere denuded of epithelium these spots are stained a green color which gradually disappears in the course of an hour. This is most valuable for the diagnosis of superficial injuries which are often difficult to recognize. Every ulcer is colored and may be outlined for the purpose of making applications, curetting or cauterizing. It also indicates, when used from day to day, the change that is taking place, and enables one to know with certainty when an ulcer is healed over. Particles of foreign bodies and rust, which often remains after the removal of a foreign body, are plainly distinguished from the green base. Its use also may be extended to the conjunctiva where any loss of substance is made known by a yellow color. Injuries thus becomes visible which otherwise could not be discovered, In conjunctivitis, phlyctenulæ become colored and are by this means diagnosed from other nodular prominences. It is also to be noted that the stain is not easily seen by artificial light.

Most of the standard text-books on the eye either make no mention of this preparation, or give a very inadequate estimate of its value.

XEROSIS OF THE CONJUNCTIVA.

Xerosis of the conjunctiva as a result of cicatricial degeneration following a burn is extremely rare.

T. B., aet. 25, machinist, of Watertown, N. Y., consulted me, June 3rd, 1891. About five months previously he was struck in the eye with a piece of molten metal which burnt the conjunctiva between the cornea and caruncle. He stated that it healed rapidly, but there was always the sensation of a foreign body in the eye. He had advice from two physicians and used collyria; caustic applications were made without relief. On examination there was found an area between the cornea and caruncle, almost circular, about 3-8 of an inch in diameter, superficially dry, not being moistened with the lachrymal secretion. It was not adherent to the sclerotic and of a dull white color. Solutions placed upon this area rolled from it in drops as from an oily surface. The friction between this and the upper lid, in winking, produced the sensation of a foreign body. Under cocaine anæsthesia the xerotic area was removed and two stitches introduced to bring the normal conjunctiva together. These were removed in forty-eight hours and there was no further Xerosis.

J. C. Connell.

"TRUE," OR GRAVE DIABETES—PANCREATIC TREATMENT.

TALBOT JONES, of St. Paul, Minn., in *Medical Record* for May, has an admirable paper dealing with the proposed treatment of the above disease by means of the pancreas or its extracts.

After quoting authorities, who conclusively show that in animals the extirpation of the pancreas is followed by persistent diabetes, and that this condition is improved by the introduction into the system of the pancreas or its extract, he concludes as follows: "After due consideration of the foregoing, three possibly successful methods of treatment appear available, (*a*) rectal injection of pancreatic extract, (*b*) subcutaneous injection, (*c*) pancreatic grafting." Along with many others working at the same subject Prof. Lepine, who reports removing the pancreas in forty dogs, and in each one of whom sugar was found in the urine within forty-eight hours afterwards, believes that the blood has the power of constantly destroying the glucose by the action of a ferment made in the pancreas. Bearing this in mind, then, we can understand the importance of the conclusions, above mentioned, of Dr. Jones. The treatment heretofore has been directed against the production of sugar—the proposed treatment is based on the belief, substantiated by experiment on animals, that the introduction of the gland by grafting or its extracts by injection into the body will yield that ferment which normally destroys the sugar. We had a case last month of diabetic gangrene. Under suitable treatment (dietetic and medicinal), the percentage of sugar in urine was reduced to $3\frac{1}{2}$ p.c. She was passing about 100 oz. per diem. We had all preparations made to insert under the pectoral muscle a portion of the pancreas from an anæsthetized sheep. On explaining to her our intention, she at first consented, but afterwards changed her mind, stating she did not wish any experiment made on her. We obtained her permission, however, to use rectal injections, and so, Armour of Chicago having prepared for us desiccated pancreas from the sheep we made an emulsion with cod liver oil, 1 in 10, and injected one ounce of this emulsion night and morning.

Dr. W. T. Connell kindly took charge of the urinalysis. The day before the injection there was $3\frac{1}{2}$ p.c. sugar present. The day after 3 p.c.; 2nd day after $2\frac{1}{2}$ p.c; 3rd day, $2\frac{1}{4}$ p.c.; 4th day, 2.; 5th day 2. At this point she left for home, promising however to come back (a promise unfulfilled as yet).

The use of the pancreas by rectal injection may be only temporary in its effects, but even so, it may prove to be an important factor in the treatment of diabetes by the more permanent engrafting. We know that in the diabetic the germicidal activity of the blood is diminished, and that inflammatory processes are apt to occur in a patient the subject of this disease, hence it might be deemed inadvisable to inflict the wound necessary for the grafting, as union might not occur, and the purpose of the operation be defeated by the inflammatory processes liable to be developed. Pavy states that "no serious results occur in diabetes as long as the blood is kept free from sugar." Might it, then, not be possible to raise the vitality of the tissue temporarily by means of the rectal injection sufficiently to allow the successful use of the grafting.

In the above-mentioned case the time was too short to note any appreciable difference in the condition of the gangrenous foot, but the perusal of Dr. Jones' paper and the fact that, even after the brief attempt above referred to, the percentage of sugar decreased when other means had failed to produce this result, satisfies us that this relentless disease may in the near future be rendered amenable to treatment.

D. E. MUNDELL.

ANTITOXIC TREATMENT OF DIPHTHERIA.

A sufficient time has now elapsed to allow a thorough testing of the efficacy or otherwise of antitoxin in the treatment of Diphtheria. Many reports and statistics of its use are already to hand but most of these are records of its use in Hospitals. The greater number, in fact almost all these reports are distinctly favorable, in many cases markedly favorable, to the employment of the serum. Hospital statistics, however, do not form a fair criterion by which to judge the effects of this treatment in private practice; it being notorious that hospitals receive as a rule the worst cases. On this account a peculiar importance is attached to the report of a committee of the American Pediatric Society at their meeting in Montreal in May of this year. This report comprises a series of 5,794 cases of diphtheria met with either in the private practice of various physicians or treated by the Health Boards of Chicago and New York in their own homes. Of these cases, 3,384 were furnished by 615

physicians from the various States and Canada ; 942 cases were reported by Dr. H. M. Biggs as treated in the tenements of New York by the Board of Health, and 1,468 cases treated in their own homes, under the direction of the Chicago Board of Health.

In these statistics no cases are included in which the Tonsils alone were affected, unless the case was bacteriologically confirmed as diphtheria, by the presence of the Klebs-Loeffler Bacillus. The larynx was affected either alone or in conjunction with Tonsils, Pharynx or Nose in 1,256 of the 3,384 cases reported from private practice, a percentage of 37.5, which is higher than the usual average.

In the entire number of cases a bacteriological examination confirmatory of the disease was made in over 85%. The remainder were almost certainly Diphtheria, as all doubtful cases were excluded (clinically).

In the 5,794 cases there were 713 deaths, a mortality rate of 12.3% ; but of these deaths, 218 were either moribund at time of use of serum or died within 24 hours after receiving it. Excluding these cases we have a death rate of but 8.8%. This report strongly emphasizes the necessity for the early use of the serum, though its use by no means is contra-indicated later in the disease. We find that in those cases, 4,120 in number, inoculated within the first three days, presented a mortality rate of 7.3 per cent., or excluding the moribund cases and cases dying within 24 hours of inoculation, a death rate of but 4.8%. Of those inoculated on or after the fourth day (1,674 cases) the death rate was 24.5%, or excluding moribund cases, 18% ; these last figures approximate the usual death rate without antitoxin. [See Table I.]

This report shows that the highest mortality was in children under 2 years of age, being 19.2 per cent when the moribund cases are excluded—23.3% including these. "After the second year there is noticed a steady decline in mortality up to adult life. In many of the reports previously published the statement has been made that no striking improvement in results was observed in adult cases treated by the serum. Our figures strongly contradict this opinion, of 359 cases over fifteen years of age there were but 13 deaths." [See Table II.]

As regards the use of the serum in laryngeal cases we again quote the words of the report : "In establishing the value of the serum, nothing has been so convincing as the ability of antitoxin, properly administered, to check the rapid spreading of membrane downward in the respiratory tract, as is attested by the observations of more than 350 physicians who have sent us reports." Thus in the 1,256 laryn-

geal cases recorded in private practice, in 691 cases no operation was performed; of these cases 563 recovered, giving a mortality rate of 18.5% Of these fatal cases 48 died of laryngeal obstruction, operation being either refused by patient or parent, or else neglected; and not from the laryngeal disease.

Of the 565 laryngeal cases operated upon, 533 were intubated and 32 tracheotomized. In the former there were 138 deaths (25.9 per cent); in the latter 12 deaths a death rate of 37.4 per cent. But of these deaths 66 were either moribund or died within 24 hours of operation, and excluding those we have 499 cases with 84 deaths—16.9%. Let us compare the results of these operation cases plus the serum, with the results preceding the use of the antitoxin. In 1892 McNaughton and Craddren published records of 5,546 cases of diphtheria in which intubation had been performed in private practice with a death rate of 69.5 per cent. Later statistics have improved this somewhat, *e.g.* these of Brown—279 cases intubated with a death rate of 51.6 per cent. These figures compared with those of the Society's report speak truly most convincingly for the use of the serum.

With regard to paralysis the report of the committee is not decisive as to any relation between its frequency and the use of the serum. In the 3,384 cases in private practice, paralysis occurred in 328 cases, *i.e.*, 9.7 per cent. Lennox Brown's series of 1,000 cases of diphtheria was followed in 14 per cent of cases with paralysis. Saune in 2,448 cases noted paralysis in 11%.

Broncho-pneumonia was much less frequent under the use of the antitoxin than by any previous treatment, and was distinctly less in these private cases than the record of it in hospital statistics. It was present in 193 of the 3,384 cases, *i.e.* 5.9%, and was the actual cause of death in 54 cases.

In looking over the actual causes of death in the fatal cases reported to the Society we find that of 350 deaths which can be analyzed, 105 are reported as dying of Sepsis, 54 of Broncho-pneumonia, 53 of Cardiac paralysis, 48 of laryngeal obstruction, 15 of Nephritis, 11 of Bronchitis and Tracheitis, 6 of respiratory or general paralysis, and 12 by complication with other exanthems. In the term Sepsis is included not only streptococcic and staphylococcic invasion of the blood, but toxæmia from absorption of the products of the diphtheritic membranes.

On the adoption of the report by the Society it was decided to recommend in regard to (1) Dosage. For a child over two years the dosage of antitoxin should be in all laryngeal cases with stenosis,

and in other severe cases 1,500 to 2,000 units for the first injection, to be repeated in 18 to 24 hours if there is no improvement. For mild cases and for severe cases under two years, the initial dose should be 1000 units, repeated if necessary. Always estimate the dose in units, not in amount of serum. (2) Quality of Antitoxin. One should use the most concentrated strength of an absolutely reliable preparation. (3) Time of Administration. Antitoxin should be administered as soon as a clinical diagnosis is made. However late the first observation is made, an injection should be given unless the progress of the case is satisfactory.

The entire report of the Committee of the Society is worthy of study, and taken in all is one of the most favorable reports as to the efficacy of antitoxic serum yet published.

TABLE I.

Comparison Table between cases of the Metropolitan Hospital Asylums Board of London, and the private cases of the American Pediatric Society; shows the day of disease on which patient came under treatment—with antitoxin or otherwise—and the percentage death rate.

British Med. Journal, July, 1896.

Day of Diease	Metropolitan Asylum Board.		American Pediatric Soceity.
	1894. Without Antitoxin.	1895. With Antitoxin.	With Antitoxin.
1st	22.5	11.7	4.9
2nd	27.0	12.5	7.4
3rd	29.4	22.0	8.8
4th	31.6	25.1	20.7
5th and over.	30.8	27.1	35.3
Unknown.			8.2

TABLE II.

Showing the ages of patients and mortality rate in cases of Metropolitan Asylums Board and cases of American Pediatric Society.

Ages.	Metropolitan Asylums Board.			American Pediatric Society.
	1894. Without Antitoxin.	1895. With Antitoxin.	1895. All Cases.	With Antitoxin.
0–2 years.	61.9	51.1	48.5	23.3
2–5 "	43.7	33.5	30.7	14.7
5—10 "	26.0	24.0	19.4	12.1
10—15 "	11.2	13.6	8.4	6.2
15—20 "	4.3	12.0	7.2	3.2
20 and over.	6.5	3 9	2.5	3.8
All ages.	29.6	28.1	22.5	12.3

W. T. CONNELL.

KINGSTON MEDICAL AND SURGICAL SOCIETY.

THE old Medical Society which did such good service and was so ably sustained in years gone by was resuscitated and again placed on a solid foundation in the early part of the summer. At the initial meeting, Dr. Oliver was chosen President and Dr. E. Mundell Secretary. Much enthusiasm was expressed by the large number of local medical men present at the strong probability of an active, live society being maintained.

At the second meeting held in July last, most interesting papers were read by Dr. Anglin and Dr. Mundell, which elicited a very full discussion.

The third meeting of the Society was held at the General Hospital on Sept. 8th, at which Dr. Ryan read a paper on Puerperal Eclampsia.

Dr. Oliver opened the discussion. His experience covered some six or seven cases, all of which had recovered. His treatment consisted in delivery as early as possible, free purgation, chloroform by inhalation, chloral and bromide by the stomach or rectum and venesection where the patient was decidedly plethoric.

Dr. Anglin said the subject was of particular interest to him as within the past two years he had met with three cases of eclampsia, one of which proved fatal. In two of the cases the patients were seen for the first time when in a convulsive seizure, and the urine became solid upon boiling. Two were primipara and one a multipara. Chloroform, vigorous catharsis, induced by means of calomel and and pulv: jalapæ co: in full doses aided by the use of enemata, copious diaphoresis obtained by enveloping patient in blankets wrung out of hot water, and covered with dry blankets were employed. Chloral in thirty grain doses was given per rectum, and repeated in two hours. In one of the primipara the convulsions came on during labour at full term. The os was rapidly dilated digitally and delivery of a living child accomplished by forceps. The same patient was again confined three days ago. The labor was perfectly normal and there was not a trace of albumen in the urine. In the other primipara (fatal case) without previous warning of any kind, convulsion came on in the sixth month of pregnancy. The induction of labor was extremely difficult—venesection was employed in this case—death occurred some hours after delivery from pulmonary œdema. In the case of the multipara (eight months pregnant) the induction of labor was easily accomplished, using Barnes' bags and

digital dilatation. Two doses of chloral were given per rectum, and chloroform used as required. The patient made a good recovery, the urine rapidly clearing of albumen in about five days, a mixture containing iron, digitalis and strychnia being given.

Dr. Garrett believed that the pathology of this complication of pregnancy was still far from being satisfactory; the presence of toxines in the blood being to-day the theory which received the most ready acceptation. From personal clinical observation there were two distinct conditions which gave rise to the presence of albumen in the urine of pregnant women. One, a condition of superalbumenosis alone, brought about by an increased ingestion or a more perfect appropriation of protein substances, aided in many cases by pressure on the renal veins and vena cava, thereby retarding the circulation in the kidney. In this condition eclampsia was not likely to appear. The second condition was that of albumenous nephritis in which under certain circumstances such as cold, mental impressions and the like, the hyperæmia was increased so as to represent a state of inflammation, in which case not only albumen would be found, but casts, etc., as well. Here eclampsia is very likely to occur. The necessity for examining the urine of a pregnant woman for sugar as well as albumen was strongly dwelt upon, as he had a case die from eclampsia at full term in which there was no albumen in the urine but there had been about ten grains of sugar to the ounce for the previous four months. No notice of diabetes being a complication of pregnancy appeared in any of the text-books, and the knowledge of such in pregnancy is very scant. J. Mathews Duncan, in a paper on "Puerperal Diabetes" read before the British Obstetrical Society, reports some twelve or fifteen cases, apparently all he could gain access to, and from these he concluded that diabetes may come on during pregnancy—that it may occur only during pregnancy—that pregnancy may be interrupted in its course by it, but in almost every case the results were sooner or later disastrous to the patient.

Dr. Wood referred to a case of eclampsia in a multipara. The convulsion came on with labor at full term, a rapid delivery was accomplished, chloroform used during the convulsive paroxysms and chloral hydrate given per rectum. Eight hours after delivery the convulsions ceased and the woman made a good recovery. In a second case, a primipara, convulsions set in about the eighth month, premature labor was induced, the treatment was the same as in the other, but terminated fatally in 24 hours. The temperature rose with every convul-

sion and even showed a post-mortem rise. During the present year in another case, a primipara, the urine after the fifth month was scanty, contained a large percentage of albumen, plenty of casts and epithelium, yet the woman went on to full term, had a normal labour, and two weeks later the urine was normal. Looking over the literature on the subject, he found that eclampsia occurred in many cases where there was no albumen in the urine, while on the other hand only twenty-six per cent of albumenarics are eclamptics.

Dr. Duff had a record of eight cases with two deaths. One death occurring before and one after delivery. In the two fatal cases, the treatment consisted of croton oil, chloral hydrate and inhalation of chloroform; in the other cases, calomel, hypodermic injections of morphia, and when possible the immediate evacuation of the contents of the uterus. In one case with a rigid os, after other means had failed to accomplish dilatation, the os was freely painted with a ten per cent solution of cocaine, and after two applications it was freely dilatable.

Dr. Mundell had seen six cases of this complication. They were all primipara and three of them had very severe vomiting during the early months of pregnancy. Out of the six, one died. The treatment was inhalation of chloroform, veratrum viride if the pulse was strong and bounding until reduced to 75 or 80 beats per minute, chloral per rectum and induction of premature labor. The last case had a history of scarlatinal nephritis when a child. I was consulted on account of the general œdematous condition of the patient. On testing the urine it was perfectly solid. Active eliminative measures were adopted. That night she had convulsions, but under above treatment made an uninterrupted recovery. The amount of albumen in these cases seemed to bear no definite relation to the severity of the eclamptic seizures. In the fatal case 15 per cent albumen was present.

Dr. J. C. Connell had seen in his practice only those cases of eclampsia which had recovered, and in which partial loss of vision had taken place from retinitis. In the three cases of which he had notes from one-half to one-third of normal vision was regained. The typical degenerative changes of albumenuric retinitis remained permanently. Dr. Connell submitted colored plates illustrating these changes.

Dr. Third said he had but limited experience with veratrum viride in eclampsia. At present he preferred relying on chloral (per rectum), chloroform inhalation, rapid delivery and free purgation.

NOTES.

Dr. W. T. Connell has been visiting some of the large Pathological and Bacteriological laboratories in Chicago with the idea of witnessing the newest methods of research in those lines and adding them to the already well equipped laboratories of the Medical Department of Queen's University. These laboratories have every facility for the examination of pathological specimens, urinalysis, and for making cultures in suspected cases of Diphtheria, etc., and it is to be hoped that the local Board of Health will see its way to take advantage of the facilities offered, and insist upon all cases reported as diphtheria or membranous croup being examined bacteriologically.

The annual meeting of the Canadian Medical Association was this year held in Montreal and from every stand-point, was a most successful and interesting one. Almost two hundred physicians, gathered from nearly every Province of the Dominion were present to take part in the discussions. The only difficulty that stood at all in the way was the bad acoustic properties of the building, St. George's Hall, where the meetings were held. It was often extremely difficult for even those in the front rows to follow in their entirety the words of the speaker.

The Inter-provincial Registration Committee brought in their report, the basis of which was a five years' course of six months or a four years' course of eight months. It now remains to be seen what the Councils of the respective Provinces will have to say. Exceedingly interesting clinics were given in the various hospitals, at the close of which an excellent lunch was served to the members of the profession present.

The Province of Ontario is to be congratulated in again securing the Presidency of the Association. The much-coveted prize fell to Dr. V. H. Moore of Brockville, a graduate of Queen's University While the doctor is to be congratulated upon the extreme distinction conferred upon him, the Association is also to be congratulated in having placed at its head so worthy a member of the profession. He has always been foremost in advancing the interests of medicine both by his constant attendance at the various meetings of the Medical Associations, and by his vigorous support of higher education in all its branches.

The Association decided to again hold its next meeting in Montreal. The influence which had most weight in bringing about this end was the notification that the next meeting of the British Medical Association would be held in that city, and it was felt that

in order that the Canadians might give their English brethren as royal a reception as possible, it would be better to hold the meeting simultaneously with that of the British Association. Accordingly next year the regular meeting of the Canada Medical Association will be for the transaction of business only, after which it will merge into the larger meeting.

The British Medical Association has this year conferred its chief honour on a Canadian surgeon. Dr. Roddick of Montreal is now the holder of the proud position of President, and out of deference to him and to the profession in Canada, the Association decided to cross the Atlantic and hold its next meeting in the doctor's native city.

Those who have given the matter any attention must have come to the conclusion that the next meeting of the Canadian Medical Association, merged as it will be with that of the British Medical Association, will be the largest and most interesitng meeting that Canada has ever had. The leaders in every branch of medical science from the Old Country will be present, and the same from our own country will be there to meet them. The next International Medical Congress occurs next year in Moscow, where doubtless the predominant language spoken will not be English, and consequently few from the English, speaking countries will be present. Under these circumstances it may be confidently expected that the distinguished British Association, merged as it will be with our own Association, will attract a large number of the best men from the United States and other countries, and in that way will take on all the importance of an International meeting.

Capt. Cochrane of the Royal Military College Staff has been appointed Cathographer to the Kingston General Hospital. Two specimens of the Captain's work appear in this issue of the QUARTERY. No doubt the Surgeons of the Hospital will by this means be greatly assisted in their diagnosis of obscure cases.

HOSPITAL NOTES.

ON the night of March 31st, the recently completed operating room, to which the late Dr. K. N. Fenwick so liberally subscribed, took on a new character and looked more attractive than usual. It was the nurses' holiday, and the night on which the class would graduate.

The use of the operating room for such a purpose marked a fresh epoch in the history of the Training School, as formerly all such exercises had been held in a smaller room, thus debarring the public from the privilege of being present, and the nurses from the pleasure of receiving their friends.

That it was a privilege appreciated by the friends of the nurses, was manifested by the fact that the demand for admission far out-numbered the seating capacity of the amphitheatre. The graduating class, attired in their white and red uniform, worn exclusively by the pupils and graduates of the Kingston Hospital, were presented with their diplomas and class-pins, by Colonel Duff, chairman of the Board of Governors.

Dr. Garrett presented the address to the graduating class, and by his kind words of commendation, made the nurses realize that their honest work had been appreciated. Other congratulatory addresses were made by different members of the Board of Governors, after which the nurses were at liberty to entertain their friends.

During the last six months, the Training School has made vast strides in offering additional advantages to its pupils. The Doran Building—the importance and success of which is too well known to mention—has been put entirely into the hands of the pupils of the school, thus giving them, besides an exceptionally thorough gynæcological and obstetrical training, an opportunity to develop those qualities of governing and management, which will guarantee their future success in hospital positions. The nucleus of a medical library has been started in the nurses' "Home." Several doctors have generously offered their assistance, and the nurses hope that this humble beginning will, in time, lead to greater things.

Dr. Garrett recently gave the pupil nurses some very good advice, which would apply equally well to the graduate. He said, "If you desire to achieve success, your whole life must be devoted to a cultivation of those virtues which alone can lead to it. You must set before you a high ideal—one which you must always strive to emulate. To-day, a trained nurse must possess a host of qualifications, and though you may be good, you can become better, more gentle, more kind and more unselfish. Be honest, be sincere, be sympathetic in your attention to your patients, remember that it is the peculiar right of a patient, worn out by sickness or pain, to find fault or complain. Overpay your patients with devoted care, study thoughtfulness and a kind disposition, and as the years go on you will find yourselves more sought after, and richer in that noble interest which dutiful work brings to the well-used capital of labor."

Since our adoption, in December, 1895, of the system of non-payment for pupil nurses, we notice that other schools, notably, Johns Hopkins, have adopted the same plan, and, in addition, lengthened the period of study from two to three years. The Johns Hopkins, however, makes provisions for needy, but ambitious pupils, by offering a certain number of scholarships each year.

The recently established Alumnæ Association of the Training School, has already a membership of thirty-eight, with eleven honorary members.

Although the Training School has for the last ten years been sending out, annually, a graduating class of five or six members, until recently, no united action has been possible, owing to the fact that these graduates have been widely separated—having almost invariably received offers of hospital positions, and for private nursing from other parts of Canada, or from the United States.

The Constitution of the Alumnæ asserts, that its establishment is "for the mutual help and protection of graduates, for the elevation of the nursing profession in general, and in particular for the furtherance of the interests of its own school," and these its members are fully determined to fulfil.

(Miss) M. H. McMillan.

IN MEMORIAM.

IN this, our first issue of the KINGSTON MEDICAL QUARTERLY, we have to express the irreparable loss the profession has suffered through the death of Dr. K. N. Fenwick. He was a graduate of Queen's College, and the substantial education he obtained there was matured and refined by subsequent Hospital work, both in London and on the Continent. He was an enthusiast in his profession, a splendid teacher, a skilful operator, a valuable contributor to medical literature, and a generous donor to Hospital improvements. He enjoyed a large practice, was attentive, kind and considerate. All who knew him regret his untimely end.

The death of Dr. Saunders also caused widespread regret. He was a man of wide experience, especially in the practice of medicine. He was an earnest worker, a careful reader of medical literature, and in medical cases his judgment was unsurpassed in the community. Kind-hearted and unselfish, his time and his experience were given fully and freely, counting not the reward if only he was relieving human sorrow and human suffering. Those who knew him will remember him with affection, not only as a man eminent in his profession, but as one endowed with other qualities, rarer if not so highly prized.

Another regretted death occurred in Kingston a short time ago. Our old friend Dr. D. C. Hickey passed away after a short illness. He was a graduate of Queen's College, and had a rather varied career. During the American War of Rebellion, he received an appointment in a Northern army corps and served till the close of the war. Afterwards he was appointed Inspector of Quarantine in New York harbor. Still later he practised in this city, but for some years past he had retired to private life.

We have also to chronicle the death of Dr. Annie Dickson, of Kingston. She was one of the early woman graduates of medicine in Ontario, and had practised successfully for a number of years. For some time past she had been in failing health, though she continued her labors till the last. She was a daughter of the late Dr. Dickson, so well and favourably known in this city.